July xx, 2000 Certified Mail: Z 029 877 xxx

Steve Nied, Environmental Engineer
Jupiter Aluminum Corporation
1745 – 165th Street
Hammond, Indiana 46320

Re: Second Minor Source Modification 089-12401-00201
To Part 70 permit T089-5838-00201

Dear Mr. Nied:

Jupiter Aluminum Corporation was issued a Part 70 operating permit (T089-5838-00201) on March 4, 1998 for a Secondary Aluminum Production Plant. An application to modify the source was received on May 26, 2000. Pursuant to 326 IAC 2-7-10.5 (d)(10) the following existing emission unit is approved for modification at the source:

Changes to Aluminum Reverberatory Melting Furnace #2 include:

6. An increase of burner capacity from 28 MMBtu/hr to 40 MMBtu/hr with 100% oxygen enrichment for energy efficiency and reduction of NOx emissions and;

7. An increase of furnace capacity resulting in an increase of production rate from 7.5 tons per hour to 14 tons per hour and;

8. The addition of American Air Filter Baghouse BHS-7 as the primary control for emissions from Furnace #2.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

7. **Pursuant to 326 IAC 2-1.1-11, Compliance Requirements, a compliance test shall be performed at the exhaust of the primary control for Furnace #2 to demonstrate compliance with the PM_{10} SIP limit of 1.137 lbs/hr. The stack test shall be performed within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. This test shall be performed according to 326 IAC 3-6 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.**

   (a) A test protocol shall be submitted to the HDEM and IDEM-OAM, Compliance Data Section, 35 days in advance of the test.

   (b) All test reports must be received by HDEM and IDEM-OAM, Compliance Data Section within 45 days of completion of the testing.

The proposed operating conditions applicable to these emission units are attached to this Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as an administrative amendment in accordance with 326 IAC 2-7-10.5(l)(1) and 326 IAC 2-7-11.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (219) 853-6306 and ask for Ronald Holder or Debra Malone.

Sincerely,

Ronald L. Novak, Director
Hammond Department of Environmental Management
Air Pollution Control Division

Attachments

RH

cc: File - Lake County
U.S. EPA, Region V - Cheryl Newton
Permits Administration - Mindy Hahn

PART 70 OPERATING PERMIT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
and
HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Jupiter Aluminum Corporation
1745 - 165th Street
Hammond, Indiana 46320

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T089-5838-00201	
Original Issued by: Felicia R. George, Assistant Commissioner Office of Air Management	Issuance Date: March 4, 1998

First Minor Source Modification: 089-11098-00201 and
First Administrative Amendment: 089-11158-00201 Issuance Date: August 26, 1999

Second Minor Source Modification: 089-12401-00201	Pages Affected: 7 and 33
Issued by: _____ Ronald L. Novak, Director Hammond Department of Environmental Management	Issuance Date: July xx, 2000

SECTION D.3 FACILITY OPERATION CONDITIONS

Three (3) Aluminum Reverberatory Furnaces No. 2, 6, and 7:

(7) Aluminum Reverberatory Furnace No. 2 (MS-1A)
This unit has a maximum design rate of 40 million Btu/hr heat input and is natural gas fired only. The maximum rate of scrap aluminum feed to this furnace is 15 Tons per hour with a 95% melt recovery rate (14.25 Tons per hour). Particulate emissions generated during the melting process are primarily controlled by an American Air Filter Baghouse (BHS-7) which is rated at 99% control efficiency.

A Carborundum Baghouse (BHS-5) is used as a stand-by control unit. Baghouses (BHS-6) and (BHS-5) share a common spark arrestor from which the common radiant cooling ductwork lead to a common header to the baghouses. A Lime Injection System is used on both baghouses to precoat the bags and protect from acid decay. The maximum quantity of lime injected through the system is 70 pounds per day.

Normally, furnace 2 is controlled by Baghouse BHS-7, furnace 6 is controlled by Baghouse BHS-6, and furnace 7 is controlled by Baghouse BHS-5. However, during maintenance or other circumstances as necessary, all three furnaces can be vented to either baghouse BHS-6 or BHS-7.

(8) Aluminum Reverberatory Furnace No. 6 (MS-1E)
This unit has a maximum design rate of 20 million Btu/hr heat input and is natural gas fired only. The maximum rate of scrap aluminum feed to this furnace is 8.3 Tons per hour with a 90% melt recovery rate (7.5 Tons per hour). Particulate emissions generated during the melting process are primarily controlled by a Wheelabrator Baghouse (BHS-6) which is rated at 99% control efficiency.

(9) Aluminum Reverberatory Furnace No. 7 (MS-1F)
This unit has a maximum design rate of 6 million Btu/hr heat input and is natural gas fired only. The maximum rate of scrap aluminum feed to this furnace is 1.8 Tons per hour with a 90% melt recovery rate (1.62 Tons per hour). Particulate emissions generated during the melting process are primarily controlled by a Carborundum Baghouse (BHS-5) which is rated at 99% control efficiency.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate Matter less than 10 microns in diameter (PM10)

Pursuant to 326 IAC 6-1-10.1(Lake County PM10 Emission Requirements), subsection (d), emissions of particulate matter less than ten microns in diameter (PM10) from Aluminum Reverberatory Furnaces No. 2 and 6 shall be limited as follows:

Unit ID:	PM10 Emissions Limit	
	(lbs/ton)	(lbs/hr)
Aluminum Reverberatory Furnace No. 2	0.130	1.137
Aluminum Reverberatory Furnace No. 6	0.060	0.970

D.3.2 Particulate Matter (PM)

Pursuant to the Hammond Air Quality Control Ordinance No. 3522 (as amended), the PM emissions limits from Aluminum Reverberatory Furnaces No. 2 and 6 shall be set equal to the PM10 emissions limits.

D.3.3 Particulate Matter less than 10 microns in diameter (PM10)

Pursuant to the Hammond Air Quality Control Ordinance No. 3522 (as amended) and Construction Permit No. 00568, the PM10 emissions limits from the Aluminum Reverberatory Furnace No. 7 shall be limited to 0.060 lbs/ton and 0.970 lbs/hr.

D.3.4 Particulate Matter (PM)

Pursuant to the Hammond Air Quality Control Ordinance No. 3522 (as amended) and Construction Permit No. 00568, the PM emissions limits from the Aluminum Reverberatory Furnace No. 7 shall be limited to 0.03 gr/dscf and 4.770 lbs/hr.

D.3.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and its control equipment.

Compliance Determination Requirements

D.3.6 Testing Requirements [326 IAC 2-7-6(1)]

A compliance stack test shall be performed to demonstrate compliance with the combined PM10 limit of 3.077 lbs/hr (combined limits from furnaces 2, 6, and 7) at the exhaust of one Baghouse controlling all three furnaces. The initial test shall be performed using baghouse (BHS-6). Thereafter, the baghouses shall be alternated for each compliance test. The Lime Injection System shall also be in operation for a minimum of fifteen (15) minutes during each run of the compliance stack test. The test shall be completed within twenty-four (24) months of issuance of this permit and repeated no less than once every 5 years thereafter. Testing shall be performed in accordance with 326 IAC 3-2.1 using methods acceptable to the Commissioner.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.7 Particulate Matter (PM) and Particulate Matter less than 10 microns in diameter (PM10)

Pursuant to Hammond Air Quality Control Ordinance No. 3522 (as amended), either Baghouse (BHS-6) or (BHS-5) shall be in operation at all times when any one of the three furnaces are in operation.

D.3.8 Visible Emissions Notations

(a) Daily visible emission notations of each Baghouse stack exhaust shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.3.9 Parametric Monitoring

The Permittee shall record the total static pressure drop across each baghouse (BHS-6) and (BHS-5) used in conjunction with these facilities when any one of the three furnaces are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the

pressure drop across each baghouse shall be maintained within the range of **1.0 and 5.0** inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM - OAM and HDEM and shall be calibrated at least once every six (6) months.

D.3.10 Baghouse Inspections

An inspection shall be performed each month of all bags in each baghouse when venting to the atmosphere. A baghouse inspection shall be performed within one month of redirecting vents to the atmosphere and every month thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.3.11 Broken Bag or Failure Detection

In the event that bag failure has been observed:

(a) The affected compartments shall be shut down immediately until the failed units have been repaired or replaced.

(b) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.12 Record Keeping Requirements

(a) To document compliance with Condition D.3.8, the Permittee shall maintain records of daily visible emission notations of each baghouse stack exhaust.

(b) To document compliance with Condition D.3.9 through D.3.11, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.13 Reporting Requirements

There are no reporting requirements for this facility.

Hammond Department of Environmental Management
Air Pollution Control Division

and

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Part 70
Minor Source Modification

Source Background and Description

Source Name:	Jupiter Aluminum Corporation
Source Location:	1745 – 165th Street, Hammond, IN 46320
County:	Lake
SIC Code:	3353 – Aluminum Sheet, Plate, & Foil
Operation Permit No.:	T089-5838-00201
Operation Permit Issuance Date:	March 4, 1998
Minor Source Modification:	089-12401-00201
Permit Reviewer:	Ronald Holder

The Hammond Department of Environmental Management (HDEM) has reviewed an application from Jupiter Aluminum relating to the modification of Aluminum Melting Furnace #2 including the addition of new baghouse (BHS-7). This not a new source PSD or new construction PSD review.

Modifications include:

(1) An increase of burner capacity from 28 MMBtu/hr to 40 MMBtu/hr with 100% oxygen enrichment for energy efficiency and **near elimination of NOx emissions** and;

(2) An increase of furnace capacity resulting in an increase of production capacity from 7.5 tons per hour to 14 tons per hour and;

(3) The addition of baghouse (BHS-7) to supplement existing baghouse (BHS-6).

History

On May 26, 2000, Jupiter Aluminum submitted an application to the HDEM requesting to upgrade their existing #2 Melting Furnace. They are a major source located in Lake County with the potential to emit twenty-five tons per year of NOx. This modification will result in an increase greater than or equal to fifteen (15) pounds per day of VOCs. Therefore, pursuant to 326 IAC 2-7-10.5 (d)(10), a minor source modification is required.

Existing Approvals

Jupiter Aluminum was issued a Federally Enforceable Part 70 Operating Permit (T089-5838-00201) on March 4, 1998. A minor source modification and an administrative amendment were issued on August 26, 1999 for the addition of two (2) annealing furnaces. This will be the second minor source modification and will result in the second administrative amendment to their Part 70 Permit.

Enforcement Issue

The source has the following enforcement actions pending:

Jupiter was issued a violation letter for failing to stack test two (2) emission points within the twenty-four (24) month period allotted in their Part 70 permit. They have responded with the compliance affidavit, but have not as of this writing submitted the requested test protocols. The emission unit under this review vents to one of the stacks mentioned. This approval may be withheld pending the outcome of the IDEM's enforcement decisions.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temp (^{0}F)
BHS-7	Reverb Furnace #2	30	4'	70,000	170

Recommendation

The staff recommends to the Commissioner that the Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 26, 2000. Additional information (baghouse BHS-7) was received on July 14, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (four (4) pages).

<u>Potential To Emit</u> (Before and After Controls) of Reverb Furnace #2 as it is <u>currently</u> permitted in the existing Title V Permit (see detailed calculations in Appendix A).

Pollutant	Before Controls TPY	After Controls TPY
PM	141.6	**1.42**
PM-10	85.8	**0.86**
SO_2	0.07	0.07
VOC	7.3	7.3
CO	2.5	2.5
NO_x	12.3	12.3

Potential To Emit (Before and After Controls) of Reverb Furnace #2 after the proposed modification (see detailed calculations in Appendix A).

Pollutant	Before Controls TPY	After Controls TPY
PM	268.9	**2.69**
PM-10	162.8	**1.63**
SO_2	0.11	0.11
VOC	13.5	13.5
CO	3.5	3.5
NO_x	negligible	negligible

Potential To Emit of Modification

This table is used to show the PTE of the modification, the PTE is before controls unless the controls are inherent to the process or federally enforceable.

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This is not a new source or a new construction of an emission unit. This table reflects the PTE of the modification before controls or after federally enforceable controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Jupiter Aluminum is an existing Title V source with an issued federally enforceable Title V Permit. The existing PM_{10} SIP limit for Furnace #2 as stated in 326 IAC 6-1-10.1 (d) and in the Title V permit is federally enforceable and will not change because of the modification. Therefore, the air pollution control equipment (baghouse BHS-7) which they use to meet the limit is federally enforceable and required in the permit. Therefore, pursuant to 326 IAC 2-1.1-1, the Potential to Emit of the modification is limited by the physical limitation of the federally enforceable air pollution control equipment.

Pollutant	Potential To Emit (tons/year)
PM	1.27
PM-10	0.77
SO_2	0.04
VOC	6.22
CO	1.05
NO_x	-12.3 *

*100% oxygen enrichment means controlled oxygen supplementation to the natural gas stream sufficient to provide all the oxygen necessary to burn the fuel. This burns hotter, more efficiently, and is economically beneficial to the company. Also, no oxygen is required from the ambient air which contains 79% nitrogen and produces nitrogen oxides (NOx) when used to burn fuel. Negligible nitrogen oxides are emitted after this modification. Hence, nitrogen oxides are reduced by twelve (12) tons due to this modification.

Justification for Modification

Jupiter Aluminum is located in Lake County and has the potential to emit twenty-five tons per year of NOx. This modification will result in an increase greater than or equal to fifteen (15) pounds per day of VOC (6.22 TPY). Therefore, pursuant to 326 IAC 2-7-10.5 (d)(10), a minor source modification will be required. In the existing Title V Permit, only descriptive information for this unit will change. Pursuant to 326 IAC 2-7-11 (8), an administrative amendment will also need to be issued.

County Attainment Status

This source is located in Lake County.

Pollutant	Status
PM-10	Moderate Nonattainment
SO_2	Nonattainment
NO_2	Severe Nonattainment
Ozone	Severe Nonattainment
CO	Attainment
Lead	Attainment

Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as severe nonattainment for ozone.

Source Status

Existing Source PSD or Emissions Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	16.50
PM-10	10.32
SO_2	110.49
VOC	18.10
CO	15.00
NO_x	167.92
HAP (specify)	0

(a) This existing source is a major stationary source because it has a potential to emit oxides of nitrogen that would equal or exceed a rate of twenty-five (25) tons per year in an area classified as severe nonattainment for ozone (Lake County) – 326 IAC 2-3-1 (q)(2), Emission Offset Definitions.

(b) These emissions are based on 1998 Emissions Statement submitted by the source.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The existing control equipment (for PM10) is federally enforceable because it is already required for this existing unit in the existing Part 70 Permit.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
Furnace #2	2.69	1.63	0.11	13.5	3.5	negligible	0

This modification to an existing major stationary source is not major because the emissions increases are less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

The VOC emissions increases, due to this modification, are below the de minimis levels for a serious or severe ozone non-attainment area because they do not exceed twenty-five (25) tons per year when aggregated on a pollutant specific basis with all other net emissions increases from the source over a five (5) consecutive calendar year period prior to, and including, the year of the modification (see contemporaneous increases, Appendix A).

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source. This is not a Primary Aluminum Reduction Plant; Subpart S does not apply.

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) applicable to this source. This is not a Primary Aluminum Reduction Plant; Subpart LL does not apply.

State Rule Applicability - Entire Source

326 IAC 1-6-3 (Preventive Maintenance Plan)

Pursuant to 326 IAC 1-6-3 (b), this Department requested a copy of Jupiter's Preventive Maintenance Plan (PMP).

Jupiter submitted their Preventive Maintenance Plan on March 26, 1997. The PMP has been verified to fulfill the requirements of 326 IAC 1-6-3 (Preventive Maintenance Plan).

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of PM-10. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source.

Jupiter Aluminum submits an annual emission statement.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

Compliance Monitoring Requirements in Jupiter's Title V permit require daily visible emissions notations of all stacks at Jupiter Aluminum. Corrective actions are initiated for any visible emissions.

State Rule Applicability - Individual Facilities

326 IAC 6-1-10.1 (d) (Lake County PM-10 Emissions Requirements)

Pursuant to 326 6-1-10.1, subsection (d), (Lake County PM-10 Emissions Requirements), Reverberatory Furnaces at this source, Numbers 2 through 6, have specific PM-10 limits.

Compliance Determination Requirements in Jupiter's Title V permit require that the baghouse (BHS-6) exhaust be tested for the combined PM_{10} limit for Furnaces 2, 6, and 7 within twenty-four (24) months of the issuance of their permit. Jupiter is currently in violation of this Title V permit condition. Notwithstanding the IDEM's enforcement decisions, and pursuant to 2-1.1-11, Furnace #2 will be required to test after this modification has been completed to determine compliance with the PM_{10} SIP limit.

The existing Compliance Monitoring Requirements in Jupiter's federally enforceable Title V permit require that either baghouse BHS-6 or BHS-5 be in operation at all times when any one of the three furnaces are in operation. This will be modified by amendment to include the new baghouse (BHS-7).

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The existing Compliance Determination and Compliance Monitoring Requirements in Jupiter's Title V permit, Section D.3 for the Reverberatory Furnaces including Reverb Furnace #2 will be amended to include baghouse BHS-7 as a potential exhaust point for stack testing purposes. All other conditions for compliance determination shall remain unchanged and unaffected by this modification.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

None of the listed air toxics will be emitted from this unit or created due to this modification.

Conclusion

The operation of the Aluminum Reverberatory Melting Furnace #2 shall be subject to the conditions of the attached minor source modification 089-12401-00201.

The administrative amendment to the Part 70 permit will only change descriptive information in Section D.3 for the existing Aluminum Reverberatory Furnace #2. This revision does not trigger a new applicable requirement or violate a permit term. All limitations, conditions, and requirements will remain unchanged and in effect.

Second Minor Source Modification 089-12401-00201 and
Second Administrative Amendment 089-12405-00201

Proposed Changes:

The following changes will be made as the Second Administrative Amendment (089-12405-00201) for this source (~~strikeout~~ added to show what was deleted and **bold** added to show what was added):

1. In Section A, Source Summary, A.2, Emission Units and Pollution Control Equipment Summary, unit (7) on page 7 of 52 changes as follows to modify the descriptive information for Aluminum Reverberatory Furnace No. 2 (MS-1A):

   This unit has a maximum design rate of ~~28~~ **40** million Btu/hr heat input and is natural gas fired only. The maximum rate of scrap aluminum feed to this furnace is ~~7.5~~ **15** tons per hour with a 95% melt recovery rate (~~6.75~~ **14.25** tons per hour). Particulate emissions generated during the melting process are primarily controlled by ~~a Wheelabrator Baghouse (BHS-6)~~ **an American Air Filter Baghouse (BHS-7)** which is rated at 99% control efficiency.

   Normally, furnace~~s~~ 2 ~~and 6 are controlled by~~ **is controlled by** Baghouse ~~6~~ **BHS-7, furnace 6 is controlled by Baghouse BHS-6**, and furnace 7 is controlled by Baghouse ~~5~~ **BHS-5**. However, during maintenance or other circumstances as necessary, all three furnaces can be vented to either baghouse **BHS-6 or BHS-7.**

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2. In Section D.3, Facility Operation Conditions (page 33 of 52), descriptive information for Reverb Furnace #2 in the facility description box changes as follows:

Three (3) Aluminum Reverberatory Furnaces No. 2, 6, and 7: (7) Aluminum Reverberatory Furnace No. 2 (MS-1A) This unit has a maximum design rate of ~~28~~ **40** million Btu/hr heat input and is natural gas fired only. The maximum rate of scrap aluminum feed to this furnace is ~~7.5~~ **15** tons per hour with a 95% melt recovery rate (~~6.75~~ **14.25** tons per hour). Particulate emissions generated during the melting process are primarily controlled by ~~a Wheelabrator Baghouse (BHS-6)~~ **an American Air Filter Baghouse (BHS-7)** which is rated at 99% control efficiency. Normally, furnace~~s~~ 2 ~~and 6 are controlled by~~ **is controlled by** Baghouse ~~6~~ **BHS-7, furnace 6 is controlled by Baghouse BHS-6**, and furnace 7 is controlled by Baghouse ~~5~~ **BHS-5**. However, during maintenance or other circumstances as necessary, all three furnaces can be vented to either baghouse **BHS-6 or BHS-7.**

All other units and conditions of the permit shall remain unchanged and in effect.

ALABAMA POWER LAW (CDS)/EIS CALCULATIONS

EIS Form ss (Excel5)

Jupiter Aluminum Corporation
1745 - 165th Street
Hammond, IN 46320

PLANT ID NO: 089-00201
INSP DATE: 4/25/00
CALC DATE: 7/10/00

Minor Source Modification **089-12401-00201**
Administrative Amendment **089-12405-00201**

CALCULATIONS BY: Ronald Holder

YEAR OF DATA: **review**

NO. OF POINTS: 1

Aluminum Reverberatory Melting Furnace #2 **Before** Modification

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POINT ID: **005** — Aluminum Reverberatory Melting Furnace #2

CNTRL DEV: Wheelabrator Baghouse (BHS-6)
Backup: Carborundum Baghouse (BHS-5)

MDR (T/hr): **7.5**
YEARLY PROD (T/yr): N/A

STACK ID (DIAM:HEIGHT): (4': 60')
FLOWRATE (ACFM): 70,000
Ts(°F): 170

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-04-001-03			POTENTIAL EMISSIONS						ALLOWABLE	
			BEFORE CONTROLS			AFTER CONTROL				
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)
PM	4.3	0.99	32.250	774.000	141.255	0.323	1.413	0.001	0	0
PM10	2.6	0.99	19.500	468.000	85.410	**0.195**	**0.854**	0.000	**1.137**	**4.980**
SOx	0	0	0.000	0.000	0.000	0.000	0.000	N/A	0	0
NOx	0	0	0.000	0.000	0.000	0.000	0.000	N/A	0	0
VOC	0.2	0	1.500	36.000	6.570	1.500	6.570	N/A	0	0
CO	0	0	0.000	0.000	0.000	0.000	0.000	N/A	0	0
LEAD	0	0	0.000	0.000	0.000	0.000	0.000	N/A	0	0

PM10: 326 IAC 6-1-10.1(d)

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POINT ID: **005** — Reverb Furnace #2 In-Process Fuel Use

(Natural Gas Combustion)

MDC (mmBtu/hr): **28**
MDR (mmcft/hr): **0.028**

HEAT CONTENT (Btu/cft): 1000
QTY BURNED (mmcft/yr): N/A

STACK ID (DIAM:HEIGHT): (4': 60')
FLOWRATE (ACFM): 60000
Ts(°F): 170

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-90-006-89			POTENTIAL EMISSIONS					
			BEFORE CONTROl			AFTER CONTROL		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)
PM	3	0.99	0.084	2.016	0.368	0.001	0.004	0.000
PM10	3	0.99	0.084	2.016	0.368	0.001	0.004	0.000
SOx	0.6	0	0.017	0.403	0.074	0.017	0.074	N/A
NOx	100	0	2.800	67.200	12.264	2.800	12.264	N/A
VOC	5.8	0	0.162	3.898	0.711	0.162	0.711	N/A
CO	20	0	0.560	13.440	2.453	0.560	2.453	N/A
LEAD	0	0	0.000	0.000	0.000	0.000	0.000	N/A

Minor Source Modification **089-12401-00201**
Administrative Amendment **089-12405-00201**

Aluminum Reverberatory Melting Furnace #2 **After** Modification

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POINT ID: 005 — Aluminum Reverberatory Melting Furnace #2
CNTRL DEV: American Air Filter (BHS-7)
backup: Wheelabrator Baghouse (BHS-6)

MDR (T/hr): **14.25**
YEARLY PROD (T/yr): N/A
PERMITTED OPERATING HRS: **8760** hr/yr

STACK ID (DIAM:HEIGHT): (4': 30')
FLOWRATE (ACFM): 70,000
Ts(°F): 170

SCC NO. 3-04-001-03			POTENTIAL EMISSIONS						ALLOWABLE	
			BEFORE CONTROLS			AFTER CONTROL				
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)
PM	4.3	0.99	61.275	1,470.600	268.385	0.613	2.684	0.001	0	0
PM10	2.6	0.99	37.050	889.200	162.279	**0.371**	**1.623**	0.001	**1.137**	**4.980**
SOx	0	0	0.000	0.000	0.000	0.000	0.000	N/A	0	0
NOx	0	0	0.000	0.000	0.000	0.000	0.000	N/A	0	0
VOC	0.2	0	2.850	68.400	12.483	2.850	12.483	N/A	0	0
CO	0	0	0.000	0.000	0.000	0.000	0.000	N/A	0	0
LEAD	0	0	0.000	0.000	0.000	0.000	0.000	N/A	0	0

PM10: 326 IAC 6-1-10.1(d)

The allowable PM10 SIP limit in the existing federally enforceable Title V Permit

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POINT ID: 005 — Reverb Furnace #2 In-Process Fuel Use
(Natural Gas Combustion)
(100% O2 Enriched)

MDC (mmBtu/hr): **40**
MDR (mmcft/hr): 0.040
HEAT CONTENT (Btu/cft): 1000
QTY BURNED (mmcft/yr): N/A
PERMITTED OPERATING HRS: **8760** hr/yr

STACK ID (DIAM:HEIGHT): (4': 30')
FLOWRATE (ACFM): 70,000
Ts(°F): 170

SCC NO. 3-90-006-89			POTENTIAL EMISSIONS					
			BEFORE CONTROl			AFTER CONTROL		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)
PM	3	0.99	0.120	2.880	0.526	0.001	0.005	0.000
PM10	3	0.99	0.120	2.880	0.526	0.001	0.005	0.000
SOx	0.6	0	0.024	0.576	0.105	0.024	0.105	N/A
NOx	**0**	0	0.000	0.000	0.000	0.000	0.000	N/A
VOC	5.8	0	0.232	5.568	1.016	0.232	1.016	N/A
CO	20	0	0.800	19.200	3.504	0.800	3.504	N/A
LEAD	0	0	0.000	0.000	0.000	0.000	0.000	N/A

Due to the use of 100% Oxygen in the system, the NOx emissions are nearly eliminated.

Emissions Increases or Decreases due to the Modification of Reverb Furnace #2.

PERMITTED OPERATING HRS: **8760** hr/yr

		POTENTIAL EMISSIONS						
		BEFORE CONTROL				AFTER CONTROL		
POLLUTANT	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.99	29.06	697.46	127.29		**0.29**	**1.27**	N/A
PM10	0.99	17.59	422.06	77.03		**0.18**	**0.77**	N/A
SOx	0	0.01	0.17	0.03		**0.01**	**0.03**	N/A
NOx	0	-2.80	-67.20	-12.26		**-2.80**	**-12.26**	* N/A *
VOC	0	1.42	34.07	6.22		**1.42**	**6.22**	N/A
CO	0	0.24	5.76	1.05		**0.24**	**1.05**	N/A
LEAD	0	0.00	0.00	0.00		**0.00**	**0.00**	N/A

Jupiter Aluminum is an existing Title V source with an issued federally enforceable Title V Permit.
The existing PM10 SIP limit for Furnace #2 as stated in 326 IAC 6-1-10.1 (d) and in the Title V Permit is federally enforceable.
Therefore, the air pollution control equipment (baghouse BHS-7) which they use to meet the limit is federally enforceable and required in the permit.
Therefore, pursuant to 326 IAC 2-1.1-1, the Potential to Emit is limited by the physical limitation of the federally enforceable pollution controls.

* **100% oxgen enrichment means oxygen supplementation to the natural gas stream sufficient to provide all the oxygen necessary to burn the fuel.**
Therefore, no oxygen is required from the ambient air which contains 79% nitrogen and produces nitrogen oxides when used to burn fuel.
Negligible nitrogen oxides are emitted after this modification. Hence, nitrogen oxides are reduced by 12 tons due to this modification.

Aluminum Reverberatory Furnace #2 will exhaust to Baghouse (BHS-7).
Stack testing will be required per 2-1.1-11 to demonstrate compliance with the PM10 SIP limit.
The PM10 limit for Aluminum Furnace #2 as stated in 326 IAC 6-1-10.1 (d) and in the current Title V permit is 1.137 lbs/hr.

Minor Source Modification **089-12401-00201**
Administrative Amendment **089-12405-00201**

Jupiter Aluminum Corporation

*** Contemporaneous Increases per 326 IAC 2-3-1 (t)**

APP DATE	APPLICATION DESCRIPTION	ENGR	PM TPY	PM10 TPY	VOC TPY	NOx TPY	SO2 TPY	CO TPY	Pb TPY	Air Toxic TPY
8/16/96	Replace Baghouse BHS-4 with new BHS-6 and									
	Lime Injection System for BHS-5 and BHS-6	R.Holder		no emissions change						
10/15/96	Replace Whirl Power Boiler with Cleaver Brooks	R.Holder	0.075	0.075	0.133	2.503	0.015	0.526	0	0
10/7/96	Add Aluminum Reverb Furnace #7	R.Holder	1.710	1.040	1.730	2.630	0.016	0.550	0	0
5/4&27/98	Whirl Power and Mohawk Boiler (standby)	D.Malone	-0.021	-0.021	-0.038	-0.709	-0.004	-0.149	0	0
1/11/99	Add Annealing Furnaces #4 and #5	R.Holder	0.856	0.856	0.619	11.263	0.068	9.461	0	0
5/26/00	Upgrade #2 Reverb Melting Furnace	R. Holder	1.270	0.770	6.220	-12.260	0.030	1.050	0	0
	Totals:		3.89	2.72	8.66	3.43	0.13	11.44	0.00	0.00

* "Net Emissions Increase" definition in 326 IAC 2-3-1 (t)
to determine applicability of Emission Offset Rule 326 IAC 2-3.